



IEEE CINCINNATI SECTION NEWSLETTER - NOV./DEC. 2008

DECEMBER MEETING **Holiday Wine Tasting Party**

DATE: Thursday, December 4, 2008
PLACE : Raffel's – 10160 Reading Road (see below for directions)
TIME : 6:00 p.m. to 8:00 p.m.
FEE: \$15.00 per person, pay at the door

LOCATION: Raffel's is located at 10160 Reading Road, south of Glendale-Milford Road on the east side of Reading. Take I-75 to the Glendale-Milford Rd. Exit, go east on Glendale-Milford Road approximately $\frac{3}{4}$ of a mile to Reading Rd. and turn right on Reading.

Join us on December 4th at a holiday wine tasting party. The Wine Store in Montgomery will present a selection of wines great for entertaining and gift giving during the holidays, and Raffles will serve an appetizer buffet. Your \$15 fee (reduced from \$25) will cover the wines and the Section will pay for the appetizers. Bring your spouse or date and join us in enjoying these select wines and appetizers. Non-alcoholic drinks will also be available. Make your reservations with Fred Nadeau at f.nadeau@ieee.org or by calling the Section Voice Mail at 513-629-9380 by Noon, Monday, December 1st. Reserve early because we are limiting attendance to 50 people.

MEMBERSHIP NEWS **NEW MEMBERS**

The following individuals are IEEE members who are new to our Section:

David Bell	Jonathan A. Kopechek	David Michael Shuler
Michael Conner Conaboy	Haeyeon Lee	Chase Kelly Starr
David Esposito	John C. McClelland	Robert A. Stine
Jesse Aaron Griffis	David Plescia	Brian Telljohann
David Christopher Hernandez	Kurt Prenger	Darwin Ting
Christopher M. Hogan	Timothy E. Rapp	Shea Watson
Benjamin D. Jones	Gerald Franz Robinette	Dunrick M. Yetts
Hyoungh-Kook Kim		

We wish to welcome these new members to the Cincinnati Section!!!

Scanning the Past: A History of Electrical Engineering from the Past

Submitted by Bob Morrison, Editor

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Ernst F. W. Alexanderson and Transoceanic Radio

Seventy-five years ago this month, the PROCEEDINGS OF THE INSTITUTE OF RADIO ENGINEERS (IRE) included a paper on transoceanic radio communication by Ernst F. W. Alexanderson. He was, at the time, the chief engineer of the Radio Corporation of American (RCA) and a recent recipient of the Medal of Honor from the IRE. His numerous inventions and other achievements gained him recognition as one of the most outstanding members of the electrical engineering profession during a career of over a half century.

Alexanderson was born in 1878 in Uppsala, Sweden, and graduated in engineering at the Royal Technical University in Stockholm in 1900. He spent a year taking advanced studies in electrical engineering in Germany before coming to the United States. He worked for a few months as a draftsman for the C&C Electric Company in New Jersey before joining the General Electric Company (GE) in Schenectady, NY, in 1902. One of his first inventions was a self-exciting alternator which was the subject of a paper published by the American Institute of Electrical Engineers (AIEE) in 1906. Subsequently, he devised a modified repulsion motor for electric railway use, which he described in a 1908 AIEE paper.

Beginning in 1904, Alexanderson designed a series of high-frequency alternators for use in radio as sources of transmitter power which provided an alternative to spark and arc transmitters. One of his early radio alternators was employed by Reginald Fessenden for experiments with voice and music broadcasts from a station in Brant Rock, MA, in December 1906. A later and higher-powered radio alternator capable of 50 kW output designed by Alexanderson was installed in New Brunswick, NJ, in 1917 and used for transatlantic communication during World War I. The first of several 200-kW Alexanderson radio alternators was located at the New Brunswick station in 1918 and served as the prototype for a long-wave radio network established by RCA following its formation in 1919. Alexanderson served as the first chief engineer at RCA and divided his time between RCA and GE for several years. He became the second recipient of the IRE Medal of Honor in 1919 in recognition of his contributions to global radio communication. He was president of the IRE during 1921.

In his August 1920 paper, Alexanderson noted that it already had "become generally known that a new highway for world traffic has been opened up through the development of transatlantic radio communication." He commented that the most suitable band for transatlantic radio traffic was at wavelengths ranging from 10 to 20 km and this would provide room for only about 12 "first class transmitting stations." He defined a first class station as one with enough power so that its messages could be "received in all parts of the world." He suggested that increasing transmitting speed, more directive antennas, and somewhat closer spacing of signal frequencies were ways to increase radio traffic in the optimum band. He provided some technical information on the 200-kW radio alternator, the magnetic amplifier, and multiple antenna which were key elements of his long-wave system.

During the late 1920's and the 1930's, Alexanderson investigated short-wave propagation, radio facsimile, mechanical-scan television, and radio altimeters. He demonstrated television in the home in 1927, using a rotating disk type receiver. He also studied and made inventions relating to electronic power conversion, direct-current power transmission, and gun-control systems. During World War II, he worked on analog computers for use with radar and developed military applications of the amplidyne. He received the Edison Medal of the AIEE in 1944.

Alexanderson retired from GE in 1948 although he continued as a consultant to the company for several more years. He authored a paper for the PROCEEDINGS OF THE IRE published in November 1952 on control applications of transistors. He received more than 340 United States patents, with the final one issued when he was 95. He died in 1975 at age 97.

*James E. Brittain
School of History , Technology and Society
Georgia Institute of Technology*

IEEE NEWS

2009 IEEE Green Technology Conference Seeks Technical Papers

WASHINGTON (9 October 2008) -- The first IEEE Green Technology Conference will examine alternative energy sources and energy-reduction technologies and their potential for helping the world meet its growing demand for energy, while reducing carbon emissions. Conference organizers are seeking technical papers on current and emerging technologies in environmentally friendly energy sources, and on ways to better manage our energy resources.

Accepted papers will be published by the IEEE and presented at the 2009 IEEE Green Technology Conference (<http://www.ieeegreentech.org/>) at the Holiday Inn Hotel Towers in Lubbock, Texas, USA, 16-17 April 2009. The conference will precede the annual IEEE Region 5 Meeting.

Topics of interest include the technical and policy challenges of renewable energy sources; alternative vehicle power sources; home automation and energy management; commercial energy management strategies; energy usage reduction; and integration of green energy sources into the existing power grid. The social and economic implications of renewable and reduced carbon emission energy sources will also be examined.

Alternative energy keynote speakers will address these challenges, as will panel discussions and presentations on technology advances.

With increasing concerns about fossil fuel costs, supplies and emissions, people the world over are more closely examining the commercial viability of other energy sources. These include solar, wind, nuclear, geothermal, hydro and biomass, among others, as well as alternative vehicle power sources such as fuel cells, gasoline and liquid natural gas electric hybrids and plug-in hybrid electric vehicles.

Authors are invited to submit abstracts by 31 December 2008. Accepted authors will be notified 31 January 2009, and full 8-page papers in the IEEE conference format are due by 1 March 2009. (http://www.ieee.org/portal/cms_docs/pubs/confpubcenter/pdfs/samplems.pdf).

Submissions must describe original work not previously published or currently under review for publication in another conference or journal. Send your submissions to green.tech09@gmail.com.

The 2009 IEEE Green Technology Conference is sponsored by IEEE Region 5, the IEEE South Plains Section and IEEE-USA.

IEEE Homeland Security Conference Seeks Technical Papers

WASHINGTON (17 October 2008) -- Organizers of the 2009 IEEE International Conference on Technologies for Homeland Security (HST 09) are seeking technical papers in the following areas:

- Border and maritime security
- Critical infrastructure protection

- Counter IED technology
- Weapons of mass destruction detection, diagnostics and forensic technologies (primarily nuclear and biological)
- Disaster response

Papers should focus on technologies capable of deployment in the next five years, particularly applied research addressing areas in which breakthroughs are needed. See <http://www.ieeehomelandsecurityconference.org/authors.htm#CFP> for additional details.

Paper abstracts should be no more than 500 words and are due by 1 December 2008. Submissions must describe original work not previously published or currently under review for publication in another conference or journal. They should be e-mailed to abstractsubmit@ieeehomelandsecurityconference.org.

Accepted authors will be notified 10 January 2009. Full papers in the IEEE conference format are due by 1 March 2009. (http://www.ieee.org/portal/cms_docs/pubs/confpubcenter/pdfs/samplems.pdf).

Accepted papers will be published by the IEEE and presented at HST 09 at the Westin Hotel in Waltham, Mass., USA, 11-13 May 2009. At least one author has to register for the conference and pay the conference fee.

For more information on registration and sponsorship opportunities, see <http://www.ieeehomelandsecurityconference.org/>

Dr. Thomas Cellucci, chief commercialization officer, U.S. Department of Homeland Security (DHS) Science and Technology Directorate (S&T), will be one of the conference's featured speakers. He will discuss DHS' new SECURE (System Efficacy through Commercialization, Utilization, Relevance and Evaluation) private-sector outreach program.

The ninth-annual conference, sponsored by the IEEE Boston Section (www.ieeeboston.org) and co-sponsored by IEEE-USA, will feature technical papers from around the world, and more than 500 technology experts are expected to attend. The Department of Energy National Nuclear Security Administration, DHS S&T and the DHS Domestic Nuclear Detection Office are providing technical assistance.

Former IEEE-USA Congressional Fellow Named FCC's Chief Technologist

WASHINGTON (17 October 2008) -- Dr. Jon Peha, a former IEEE-USA Congressional Fellow, was recently named chief technologist of the Federal Communications Commission. He will serve as a senior advisor on communications technology in the FCC's Office of Strategic Planning and Policy Analysis.

"I am confident that Dr. Peha's expertise will be beneficial to the Commission as it moves forward to address numerous complex, technical issues," FCC Chairman Kevin Martin said in a statement.

Peha is an expert on rebuilding communications infrastructure following natural disasters. His research interests include wireless networks and communications systems for homeland security, public safety and emergency responders, as well as technical and policy issues related to computer and telecommunications networks. A prolific author, he wrote the March 2005 piece, "Protecting Public Safety with Better Communications Systems" for IEEE Communications magazine (www.comsoc.org/ci1/Public/2005/Mar/cireg.html).

Peha is a professor in the Departments of Engineering and Public Policy, and Electrical & Computer Engineering at Carnegie Mellon University (CMU) in Pittsburgh. He also serves as associate director of CMU's Center for Wireless and Broadband Networking. He previously worked as the chief technical officer for three

high-tech start-ups and served as a member of the technical staff at SRI International, AT&T Bell Laboratories and Microsoft.

Peha was an IEEE-USA Congressional Fellow in 1999, working first for the minority staff of the House Commerce Committee and then for Sen. Ron Wyden (D-Ore.). He is a member of the IEEE-USA Committee on Communications Policy.

IEEE-USA President Encourages Greater Investment in People, Technology, Energy R&D at Innovation 2008 Conference

WASHINGTON (21 October 2008) -- IEEE-USA President Russ Lefevre told a national conference audience that the United States should invest more in the nation's science, engineering and technology enterprise.

"There is much more that needs to be done in terms of investing in technology, in people, and in incentives that will drive innovation and entrepreneurship," Lefevre said as part of the Innovation Panel at the Innovation 2008 conference at the University of Minnesota on Monday.

Lefevre said one of the top priorities of the new presidential administration should be to fully fund the America Competes Act.

"This is an important step that the new administration can take to help shore up long-term U.S. innovation and competitiveness," he said.

The America Competes Act, which was signed into law in 2007, authorized, among other things, doubling the budgets at the National Science Foundation, the Department of Energy's Office of Science and the National Institutes of Standards and Technology; establishing the Advanced Research Projects Agency for Energy at the Energy Department; strengthening science, technology, engineering and mathematics educational opportunities at the elementary through graduate school levels; increasing funds to improve the skills of math and science teachers; and providing college scholarships for hundreds of future math and science teachers.

"Everybody supports science, motherhood and apple pie, but when it comes to funding, it's a different story," Lefevre added during the question and answer session.

Lefevre also discussed the importance of expanding our nation's energy portfolio to include greater use of alternative energy, the electrification of our transportation sector, and smart-grid technologies to manage electricity more efficiently and reliably.

"The new research and development priority is in energy, but there is no silver bullet," Lefevre said. "We need to invest our research dollars to ensure a diverse set of energy resource options."

The Innovation 2008 conference, which concludes today, is part of Science Debate 2008, a national movement that strives to restore science and technology to America's public dialogue. IEEE-USA was an early supporter.

Presidential candidates Barack Obama and John McCain answered 14 questions from Science Debate 2008, the first time in U.S. history the endorsed candidates for president revealed their science policies in this detail before an election. Their responses are at www.sciencedebate2008.com.

IEEE Seeks Volunteers for Humanitarian Technology Challenge

The Humanitarian Technology Challenge (HTC) is a partnership between IEEE and the United Nations Foundation designed to bring together technical professionals and humanitarians to develop technological

solutions for pressing challenges facing humanity.

A small number of IEEE members are needed to help shape the early stages of the program, working with humanitarians to further detail challenge definitions and outline a solution process. This is a unique opportunity for IEEE volunteers experienced in systems engineering to work directly with prominent humanitarian volunteers.

The following initial challenges were identified by focus groups composed of representatives from ten humanitarian organizations:

- Reliable Electricity – Availability of power for electronic devices
- Data Connectivity of Rural District Health Offices -- Capability of exchanging data among remote field offices and central health facilities
- Local Management and Tracking of Supply Distribution – Ensure that supplies are getting to the people that need them in order to maximize the impact of assistance
- Incident Tracking – Determine locations and extent of medical problems in order to focus resources
- Patient ID and Tie to Health Records – Maintain consistent patient records, including when patients visit different clinics and when they relocate.

IEEE volunteers should be experienced in the application of technology to solve humanitarian issues and be willing to commit approximately two to four hours per week to the project. A conference call/webcast for early stage volunteers is scheduled to take place in late November, 2008. This will be followed by an in-person conference scheduled for the first quarter of 2009, where additional volunteers will be needed.

For more information, visit the HTC Web site (www.ieee.org/go/htc). Interested volunteers should contact Harold Tepper, IEEE HTC Project Manager, at h.tepper@ieee.org

New IEEE Award Sponsored by Toyota Recognizes Environmental and Safety Technologies

The IEEE Foundation recently announced that Toyota Motor Corporation will sponsor a new IEEE award, the IEEE Medal for Environmental and Safety Technologies. This award will recognize outstanding accomplishments in the application of technology in the IEEE fields of interest that improve the environment and/or public safety.

Toyota donated US\$300,000 to support the awarding of the IEEE Medal to an individual recipient, or a team of recipients up to three in number, each year, for the years 2010 through 2019.

“One of Toyota Motor Corporation’s core values has been to focus our research and development efforts on automotive environmental and safety technologies. This philosophy prompted us to work with IEEE, the world’s largest technical professional association, to create the Medal for Environmental and Safety Technologies and recognize individuals and organizations that are making a difference, globally,” said Toyota Motor Corporation spokesperson. “Together with IEEE, we look forward to promoting this global movement on sustainability, and the successes achieved by each winner.”

Criteria considered for the award include: public benefits of the contribution; degree of improvement in important performance metrics; innovative design; development or application engineering; favorable influence of the contribution on technical professions. It is relevant to a wide community including power electronics, intelligent transportation systems, wireless communications, sensor networks control, control and automation, computing, and signal processing.

Each recipient of the IEEE Medal for Environmental and Safety Technologies will receive a gold medal, a bronze replica, a certificate and honorarium. In the event that a team up to three in number is selected, the honorarium will be equally divided.

“A truly joint effort, we are honored to partner with Toyota to bring this award to the global market as an opportunity to recognize outstanding contributions in environmental and safety technologies,” said Lew Terman, President, IEEE. “We hope the IEEE Medal for Environmental and Safety Technologies will inspire individuals and organizations to develop innovative technologies that will benefit humanity, globally.”

Toyota Motor Corporation acknowledges the cooperation and advice of Prof. Fumio Harashima, Prof. Hiroyuki Sakaki, and Prof. Toshio Fukuda in the establishment of this award. To learn more about this and other IEEE Awards, visit <http://www.ieee.org/awards>.

**IEEE-USA Applauds NASA on Space Agency's 50th Anniversary,
in Commemorative Publication and Public Radio Announcements**

WASHINGTON (30 October 2008) -- IEEE-USA is commending NASA on its 50th anniversary in 2008, through tributes in a commemorative publication and in public radio announcements. A 368-page commemorative publication, "NASA: 50 Years of Exploration & Discovery," was distributed at all of the space agency's anniversary celebrations, events and galas, as well as to multiple NASA facilities and contractors, and to members of Congress.

In an advertisement appearing in the publication, IEEE-USA noted: "U.S. members of the IEEE, the world's leading technical professional association, have been contributing scientific, technical and engineering know-how to NASA since the space agency began -- from the first NASA launch in 1958, to Apollo 11 (1969), to the Mars Exploration Rovers (2004)." Copies of the ad are available on request to <p.mccarter@ieee.org>.

In addition, IEEE-USA is highlighting the space agency's anniversary in four IEEE-USA promotional announcements on WETA-FM, the U.S. capital's only all-classical music station, with some 400,000 Washington, D.C.-area listeners. The public radio announcements, which also recognize NASA's Goddard Space Flight Center in Greenbelt, Md., are scheduled in November and December on WETA-FM (90.9).

Two announcements will be aired during NPR newsbreaks at 8 a.m. Eastern Time (ET) on Monday, 3 November; and at 8 a.m. ET on Monday, 1 December. Two more announcements will be included on the WETA-FM radio simulcast of PBS' "NewsHour With Jim Lehrer" at 6:59 p.m. ET on Friday, 7 November; and on the afternoon opera between 1:00-5 p.m. ET on Saturday, 6 December.

To listen to the radio programs and IEEE-USA announcements online, go to <http://www.weta.org/fm>. IEEE National Capital Area volunteers are also participating in two WETA fall pledge drives to help raise funds for the public television and radio station.

CONTACT: Pender M. McCarter, Senior Public Relations Counselor, IEEE-USA/Washington, DC, +1 202 530 8353, p.mccarter@ieee.org, <http://www.ieeeusa.org>

IEEE 2008 CINCINNATI SECTION BALLOT

Election of Officers for Term Beginning 01/01/09 and Ending 12/31/10

SECTION CHAIR

☐

Charles Nash

☐

Write-In _____

SECTION VICE-CHAIR

☐

Steve Olenick

☐

Write-In _____

TREASURER

☐

Brian Resnick

☐

Write-In _____

SECRETARY

☐

Marwan Nusair

☐

Write-In _____

MEMBER-AT-LARGE

☐

Lauren Tappel

☐

Write-In _____

Résumés of the above Candidates are on the next page.
Please return the completed ballot to Bob Morrison (Newsletter Editor) by

DECEMBER 15, 2008

either by e-mail to j.r.morrison@ieee.org or via regular mail to:

J. R. Morrison
4472 Oakville Drive
Cincinnati, Ohio 45211

Member Name: _____

Member Number: _____

Résumés of the Candidates

SECTION CHAIR:

CHARLES NASH – Software Engineer Advanced at Siemens PLM Software. Siemens PLM Software, formerly UGS/SDRC, develops CAD/CAE/CAM engineering and manufacturing software for a wide customer base, offering products such as NX, Teamcenter, and Nastran, used by a customer in automotive, aerospace, consumer products, healthcare, and apparel industries. Charles develops custom networking software that interconnects their products deployed at their customers' multinational operations. Earned an MSEE from the University of Illinois in 1981 and a BSEE from The Ohio State University in 1975. Prior development positions include: Network Systems Analyst at Convergys Corp; Advanced Manufacturing Engineer at GE Aircraft Engines; and Project Engineer at Cincinnati Milacron. Member of IEEE for 30 years and a Senior Member and has been active in the Cincinnati Section for 5 years, serving as the Arrangements Chair for 3 years and has served as Webmaster for past year. Completely redesigned our section's website at ieeecincinnati.org. The goal of the new website is to provide a more dynamic communication channel for all of us to interact. Hobbies include bicycling, camping, fishing, and building custom computers. Married with three children.

SECTION VICE-CHAIR:

STEVE OLENICK - Director of Engineering, Tindall Associates, a veteran-owned small business, servicing the DoD communications marketplace. Previously: CFO of L-3 Nova Engineering, focused on Software Defined Radios (SDRs). Education: BSEE from Youngstown State University, 1972; MSEE from Fairleigh Dickinson University, 1976; MBA from the University of Cincinnati, 2002 and graduate course work at NJIT, 1977. Previously held positions included COO, NSS and Director of Programs, Nova Engineering; Research and Development Manager, Cincinnati Electronics Corp.; Group Leader, CMC Electronics; New Business Manager, ITT Avionics; and a Member of the Technical Staff for the US Army CECOM. Member of Armed Forces Communications and Electronics Association (AFCEA) and a Senior Member of the IEEE; Organized Professional Development Seminars for the Fort Monmouth AFCEA Chapter; Published/Presented at MILCOM 86 and TCC 92; One Patent. He has held the positions of Chairman, Vice Chairman, Secretary and Member-at Large of the Executive Committee in the Cincinnati Section of IEEE in previous years.

SECTION TREASURER

BRIAN J. RESNICK - Director of Emerging Technologies at Intelligrated. He is currently the Chair of the IEEE Cincinnati Section. Brian is a Professional Engineer and holds eight patents. BSEE and MSEE from the University of Cincinnati.

SECTION SECRETARY

MARWAN NUSAIR - BA(Hons) 1970, MA(Hons) 1974 Cambridge University (Natural Sciences - Experimental Physics), Ph.D. 1978 University of Cincinnati (Theoretical Physics), Post-Doctoral Fellow, University of Toronto Physics Department 1978 to 1980, Instructor, University of Toronto 1980 to 1982. Co-founder of Laux Communications in Cincinnati, design and manufacture of home satellite antennas, feedhorns, and receivers, 1982 to 1987, Visiting Professor of Physics, University of Cincinnati, 1987/1988, Vice President, Valentine Research, Inc. 1987 to 1993, independent consulting in microwave and radio design 1993 to the present. Five research articles in refereed Physics journals, seven patents in microwave design. Hobbies include amateur radio, stamp collecting, and model trains.

MEMBER-AT-LARGE

LAUREN TAPPEL - BSEE University of Dayton, 1984; MBA-Finance University of Cincinnati, 1989: Employed by Cincinnati Bell Telephone as a New Product Developer, creating new converged services on Landline, Wireless and DSL networks. She started at CBT in 1986 and has worked in various departments including Outside Plant, Network Planning, Operations and Marketing. She began her engineering career at Harris Government Systems in Melbourne, Florida where she developed Satellite Modems.

The IEEE Cincinnati Section Executive Committee
Member Names and Phone Numbers

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